

## **REMARKS**

### **I. Specification**

To eliminate the duplicate use of numeral 17 in referring to different elements, Applicant amends paragraph [0029] of the specification by replacing the second occurrence of reference numeral 17 with reference numeral 170.

### **II. Drawing Objections**

The drawings stand objected to for not including original Figures 12A-12C of the original drawings and for including Figure 18 which is different from original Figure 18. Applicant acknowledges these errors and respectfully requests that the substitute drawings submitted 06/14/2004 be disregarded and that the original drawings submitted on 02/11/2004 be considered. Applicant also respectfully requests that the present amendment to original Figure 18 replacing numeral 17, which refers to the arcuate path of the head assembly, with reference numeral 170, be accepted. Formal drawings including those for Figures 12A-12C and Figure 18 with the reference number 170 used to include the arcuate path will be submitted shortly.

### **III. Restriction Requirement Under 35 U.S.C. 121**

During a telephone conversation with the Examiner on 04/29/2005 a provisional election was made without traverse to prosecute the invention of Group I defined by claims 1-31 and 39-43, drawn to a non-destructive testing system. Applicant hereby affirms election of Group I defined by claims 1-31 and 39-43 and cancels claims 32-38.

### **IV. Claim Objections**

Claims 16-23 stand objected to for the following informality: the claims recite "the cooling system of..." when they should recite, "the non-destructive testing system..." Similarly, claims 25-31 stand objected to for the following informality: the claims recite, "the cooling system of..." when they should recite, "the X-ray diffraction device of..." Applicant amends claims 16-23 by substituting the phrase "cooling system" with the phrase "non-destructive testing system" and claims 25-31 by substituting the phrase "cooling system" with the phrase "X-ray diffraction device."

**V. Claim Rejections Under 35 U.S.C. §112, ¶1**

Claim 1 stands rejected under 35 U.S.C. §112, ¶1 as being non-enabled for radiation other than X-rays. As the Office Action acknowledges the specification is enabling for at least X-rays, Applicant amends claim 1 by substituting the term “energy-emitter” in line 1 with the term “X-ray.” Applicant respectfully submits that this amendment overcomes the rejection under 35 U.S.C. §112, ¶1.

**VI. Claim Rejections Under 35 U.S.C. §112, ¶2**

Claims 5, 6, 24 and 39 stand rejected under 35 U.S.C. §112, ¶2 as failing to set forth the subject matter which applicant regards as their invention. Specifically, it is asserted that the limitations conveyed by “X-ray goniometer”, “X-ray head”, and “X-ray diffraction tube” are unclear. Applicant amends claim 5 by deleting the recitation “the emitter head assembly is an X-ray goniometer”, amends claim 6 by deleting the recitation “is an X-ray head”, and amends claims 6, 24, and 39 by deleting the word “diffraction” from the phrase “X-ray diffraction tube” so the phrase reads as “X-ray tube.” To be consistent, Applicant also amends claims 17, 19, and 41 by deleting the word “diffraction” from the phrase “X-ray diffraction tube” so the phrase reads as “X-ray tube.” Applicant respectfully submits that these amendments overcome the rejections set forth under 35 U.S.C. §112, ¶2.

**VII. Allowable subject matter**

The Office Action indicates claims 6-23, would be allowable if rewritten to overcome the rejections under 35 U.S.C. §112, ¶2 and to include all the limitations of the base claim and any intervening claims. Accordingly, claim 6 is rewritten in independent form to include all the limitations of its base claim 1 and to address the indefiniteness noted in claims 1 and 6 such that claim 6, and claims 7-23 which depend cognately therefrom, should now be in condition for allowance.

It is also indicated that claims 24-31, and 39-43 would be allowable if rewritten to overcome the rejections under 35 U.S.C. §112, ¶2. As addressed above, Applicant asserts that all §112 rejections are overcome by the amendments herein. As such, Applicant submits claims 26-31 and 39-43 are now in condition for allowance. It should be noted that claim 26 is

further amended so that the details of the construction of the filter holder are deleted as the prior art to Peralta et al. still clearly fails to disclose or suggest the recited combination of a housing surrounding an X-ray tube with the housing having a flow channel for liquid coolant while also including a receptacle that removably receives a filter holder for disposing the filter in the flow channel, as set forth in claim 26.

#### **VIII. Claim Rejections Based on Peralta et al. '622**

Claims 1-4 stand rejected under §103(a) as being unpatentable over U.S. Patent No. 5,596,622 to Peralta et al. Claim 5 stands rejected as unpatentable over Peralta et al. in view of U.S. Patent No. 4,412,345 to Workman et al.

The rejections, as they may apply to the claims presented herein, are respectfully traversed.

Claim 1 is amended to recite “an anode of the X-ray head assembly for generating X-rays” and a detachable connection that, “removably connects the filter holder to the head assembly in a substantially fixed position adjacent to the anode.” Peralta et al. fail to disclose or suggest the recited detachable connection that connects the filter holder to the X-ray head assembly in a fixed position adjacent to the anode of the X-ray head assembly. Instead, Peralta et al. generally disclose a quick action coupling 30 provided along the coolant system line to provide access to the cooling path. In the specific embodiment taught by Peralta et al., the cooling maintenance system is provided on a rolling cart 710 having a reservoir 712 for fresh oil, and an oil can 720 for waste oil. In addition, the rolling cart carries filters 714 and 716 coupled to the reservoir 712 (col. 8, line 64 - col. 9, line 5), but otherwise there is no mention or concern with servicing of these filters, so that there is no teaching that the filters are removably connected to the X-ray head assembly in a fixed position adjacent to the anode assembly thereof, as recited in amended claim 1. Peralta et al. do state that a filter can be carried in the X-ray tube as an alternative at col. 9, lines 19-24; however, in this instance they make no mention of a holder for the filter that would include a detachable connection between it and the X-ray head assembly for filter servicing, as required in claim 1. As such, since Peralta et al. do not disclose a removable filter holder, they cannot disclose or suggest the positioning of the filter holder on the X-ray head assembly, as called for in amended claim 1. More particularly, amended claim 1 requires the detachable connection removably connect the

filter holder to the head assembly in a substantially fixed position adjacent to the anode. No such substantially fixed positioning of a removable filter holder to an X-ray head assembly is taught or suggested by Peralta et al.

Claims 44-47 are added and are directed to a fluid directing assembly that is removably mounted to the housing extending about a portion of the X-ray tube. As the relied-upon art clearly fails to disclose or suggest the subject matter of claims 44-47, it is submitted that these claims should likewise be in condition for allowance.

#### **IX. Conclusion**

In view of the foregoing, Applicant respectfully submits claims 1-31 and 39-47 are in condition for allowance. Reconsideration and allowance of this application is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required with respect to this communication or credit any overpayment to Deposit Account No. 06-1135.

Respectfully submitted,

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